AMENDMENT AND RESPONSE UNDER 37 CFR § 1.111

Serial Number: 10/616,810 Filing Date: July 10, 2003

Title: SLAVE-LESS EDGE-TRIGGERED FLIP-FLOP

Assignee: Intel Corporation

REMARKS

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Applicant has reviewed and considered the Office Action mailed on <u>June 29</u>, 2004, and the references cited therewith.

Claims 1, 11, 22, and 27 are amended and claims 6-8, 23-25, and 30 are canceled; as a result, claims 1-5, 9-15, 22, and 26-29 are now pending in this application.

Drawings

The drawings were objected to under 37 CFR 1.83(a) as not showing every feature of the invention specified in the claims. Fig. 4 has been added to address this objection. Support for the subject matter illustrated in Fig. 4 is found at page 7, line 21 to page 8, line 2 of the specification as filed. No new matter has been added. The specification has been amended herein to appropriately reference new Fig. 4.

Specification

The disclosure was objected to because the background of the invention section, the summary of invention section, and their headers were missing.

The Applicant respectfully traverses this objection. It is submitted that the background of the invention section and the summary of the invention sections are optional sections and are thus not "required" sections of a patent application. For example, in 37 C.F.R. § 1.73, it indicates that "A brief summary of the invention . . . should precede the detailed description. Such summary should, when set forth, be commensurate with the invention as claimed and any object recited should be that of the invention as claimed." [Emphasis added.] The phrase "when set forth" implies that a summary does not need to be set forth. Thus, it is submitted that a summary is not a mandatory section. Similarly, it is submitted that a background is not a mandatory section. If this objection is maintained, it is respectfully requested that the Examiner identify legal support for a requirement of a summary and/or background section in a United States Patent Application.

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Claim Objections

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Claim 7 was objected to because of the use of the term "conventional." Claim 7 has been canceled.

§103 Rejection of the Claims

Claims 8 and 25 were rejected under 35 USC § 103(a) as being unpatentable in view of Ganesan (U.S. 6,433,601). This rejection is respectfully traversed.

Independent claim 1 has been amended herein to include the subject matter of previous dependent claims 6 and 8. Claim 8 originally recited, and Claim 1 now recites, "an inversion device" coupled between a clock node and the gate of the second transistor. The inversion device "includes a NOR gate having first and second input terminals and an output terminal, said first input terminal being connected to said clock node, said output terminal being connected to said gate terminal of said second transistor, and said second input being an enable input of said flip flop." The Examiner takes the position that the NAND gate 412a and the inverter 413a of Ganesan will give the same output logic to the gate of the second transistor T3A as a NOR gate would. Thus, the NOR gate is an art recognized equivalent. It is submitted that this position is in error. As is well known in the art, a NAND gate followed by an inverter generates the output logic of an AND gate. This is not the logical equivalent of a NOR gate. The Examiner has not cited any prior art that either teaches or suggests the use of a NOR gate as both an inversion device and an enable device within a flip flop. Therefore, it is submitted that a prima facie case of obviousness has not been established and Claim 1, in its amended form, should be allowed.

Independent claim 22 has been amended herein to include the subject matter of previous dependent claims 23 and 25. The Examiner had rejected previous dependent claim 25 for the same reason and motivation as previous claim 8. Therefore, it is submitted that amended claim 22 should be allowed for substantially the same reasons set out above with respect to claim 1.

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§102 Rejection of the Claims

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Claims 1-7, 9-10, 13-15, 22-24, and 26-30 were rejected under 35 USC § 102(e) as being anticipated by <u>Ganesan</u> (U.S. 6,433,601).

As described above, independent claim 1 has been amended herein to include the subject matter of previous dependent claims 6 and 8 and independent claim 22 has been amended herein to include the subject matter of previous dependent claims 23 and 25. It is believed that these claims are now in form for allowance.

Claims 6-7, 23-24, and 30 have been canceled herein.

Claims 2-5, 9-10, and 13-15 are dependent claims that depend, either directly or indirectly, from independent claim1. Consequently, these claims are allowable for at least the same reasons as independent claim 1.

Claim 26 is a dependent claim that depends directly from independent claim 22.

Consequently, this claim is allowable for at least the same reasons as independent claim 22.

Independent claim 27 has been amended herein to include the language "wherein said state retention portion includes a single latch and said single latch includes first and second inverters in a cross coupled configuration, wherein said state retention portion includes a first pull up circuit connected between said first inverter and a power supply node and a second pull up circuit connected between said second inverter and said power supply node, said first pull up circuit having a first pull up transistor and a second pull up transistor connected in parallel to provide two separate pull up paths for said first inverter." This language is substantially the same as the language of original claim 11, which the Examiner has indicated would be allowable if rewritten in independent form to include all of the limitations of the base claim and any intervening claims. Therefore, it is submitted that independent claim 27 is now in form for allowance.

Claims 28 and 29 are dependent claims that depend directly from independent claim 27. Consequently, these claims are allowable for at least the same reasons as independent claim 27.

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Allowable Subject Matter

Claims 11-12 were objected to as being dependent upon a rejected base claim, but were indicated to be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claim 11 has been rewritten in independent form to include all of the limitations of original claims 1, 9, and 10. Therefore, claims 11 and 12 are now in form for allowance.

Conclusion

Applicant respectfully submits that the claims are in condition for allowance and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicant's attorney (480-948-3745) to facilitate prosecution of this application.

If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 50-2359.

Respectfully submitted,

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By his Representatives,

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CERTIFICATE UNDER 37 CFR 1.8: The undersigned hereby certifies that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail, in an envelope addressed to: Commissioner of Patents, P.O.Box 1450, Alexandria, VA 22313-7 day of September, 2004.

Signature

Name